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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 08/984,979 | 12/04/1997 | THOMAS M. BAER | 485772000400 | 2970 |

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| EXAMINER | |
|---|---|
| NGUYEN, TU T | |
| **ART UNIT** | **PAPER NUMBER** |
| 2877 | |

DATE MAILED: 07/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 08/984,979 | BAER ET AL. | |
| | Examiner | Art Unit | |
| | Tu T Nguyen | 2877 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 April 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-44 and 49-77* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44 and 49-77* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *21* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Paper No. 24

Serial Number: 08/984,979
Filing Date: 12/04/97

Detailed Office Action

***Response to Arguments***

Applicant's arguments with respect to claims 1-44,49-77 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 49-50,52,63,70 are rejected under 35 U.S.C. 102(b) as being anticipated by Liotta et al (5,843,657).

With respect to claims 49,63, Liotta discloses a Laser Capture Microdissection (LCM hereinafter) system comprising: a transfer film carrier or a cap 5 (fig 2a), a LCM film coupled to the carrier 6 (fig 2a).

With respect to claim 50, the expanded transfer film would have been inherent because the transfer film need expands and projects itself away from the substrate in order to pick only

a wanted tissue.

With respect to claims 52,70, Liotta does not explicitly disclose a transfer film contains an absorptive substance. However, the claimed limitation would have been inherent because the transfer film is made from a certain material and it would have been obvious that each different material would absorb a certain wavelength.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-44,51,53-62,64-69,71-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liotta et al (5,843,657) in view of Shigematsu et al (5,427,950) and in further view of Nagahara et al (3,995,941).

With respect to claims 1,15,16,30, Liotta discloses a Laser Capture Microdissection (LCM hereinafter) system comprising: a transfer film carrier 31 (fig 8a), a LCM film coupled to the carrier 32 (fig 8a).

Liotta does not disclose an integrally formed structural feature that protrudes and provides a controllable spacing between the LCM film and the sample. Shigematsu discloses a

method for controlling the space between two surface by providing protrusions of a fixed height or a spacer (column 2, lines 60-68; column 3, lines 1-3). Liotta in view of Shigematsu do not explicitly disclose the spacer is an integrally formed structural feature. Nagahara discloses an integrally formed spacer (column 4, lines 10-25). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Liotta's LCM film with an integrally formed structural feature as taught in Nagahara that protrudes for providing a controllable spacing between the LCM film and the sample to make the system easier to dissect a selected sample portion.

With respect to claims 2,17, the expanded transfer film would have been inherent because the transfer film need expands and projects itself away from the substrate in order to pick only a wanted tissue.

With respect to claims 31,44,64,77, Liotta in view of Shigematsu do not disclose a plate. however, it would have been obvious to modify Liotta with a plate to hold the LCM cap to make the system easier to operate or it easier to hold a multiple caps which make the testing process faster.

With respect to claims 3,5-9,18,20-24,38-39,43,51,53-57,71-76, The claimed limitations would have been a design choice, since the general conditions of the invention are described by the prior art, modifying the prior art with a scattering media or hot vacuum bake or transparent glue or a negative draft or diffuser involve only routine skill in the art.

With respect to claims 4,19,37, Liotta does not explicitly disclose a transfer film contains an absorptive substance. However, the claimed limitation would have been inherent because the transfer film is made from a certain material and it would have been obvious that each different material would absorb a certain wavelength.

With respect to claims 10-12,25-27,40-42,58-60, Liotta discloses the claimed invention except for the transfer film thickness or length of the spacer. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the prior art system with different film thickness or different spacer length, since it would have been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

With respect to claims 13,28,61, a pedestal that protrudes and defines an acquisition zone is well known in the art, i.e. a cookie cutter. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the claimed pedestal with a transfer film to make the system more accurate. Further, Shigematsu discloses a spacer 3 (fig 1) to define a shape of the sample 11 (fig 1).

With respect to claims 14,29,62, the claimed pedestal that runs at least three points of a perimeter would have been a design choice. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the shape or area of

the pedestal to meet a design choice. Further, Shigematsu discloses at least three protrusions of spacer (column 2, lines 65-68).

With respect to claims 32-34,65-67, Buck discloses the claimed invention except for the release layer. A release layer consisting of silicones and polytetrafluoroethylenes is well known in the art. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the Buck's system with a release layer to make the system easier to clean or easier to handle the tissue.

With respect to claim 35,68, Liotta discloses a cap 5 (fig 2a). However, Liotta fails to disclose a Plano-concave void. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Liotta's cap with a Plano-concave void to make the system more efficient.

With respect to claim 36,69, Liotta does not explicitly disclose a transparent thermoplastic for the LCM. Since Liotta's system use a laser to heat the LCM film so that the heated portion of the LCM film can stick to the selected sample portion, skilled artisan would have been motivated to transparent thermoplastic for the LCM film to make the system transferring the sample more accurate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

**Tu Tuan Nguyen**
**Patent Examiner TC 2877**
**July 13, 2002/TTN**